

# An Introduction to Fishing

by Tom Cwynar

**Fishing is a great way to spend a day. It's a balm for the soul, a relaxing tonic for the mind and body. Let others have their yoga; we've got our fishing.**



If you fish, you've always got a reason to be outdoors. You can take a lunch and picnic as you fish. You can camp near a lake. You can hike or take a canoe or boat to a fishing spot. Many people build their vacations around fishing. And be sure to take your family or your friends along, for there is no more sociable activity.

Fishing gets you involved with nature. There's neat stuff to pick at and play with along the bank and in the water. Hawks and eagles soar overhead, turtles bask, frogs hop. You'll see polliwogs, crayfish, killdeer and, of course, those shiny, wriggling fish that you lure from the deep.

Missouri has over 800,000 acres of surface water, and most of it provides great fishing. Our waters hold ancient paddlefish, wary largemouth bass and tasty bluegill - over 200 different species. About 40 of those fish species are the targets of anglers.

Over 1.3 million Missourians fish. Some of them fish for sport or relaxation; others fish only for food. But the majority of anglers reap all the benefits of fishing. They spend quality time on the water and then return home to a satisfying meal of sizzled or grilled fish that they have caught themselves.

More people would like to fish. The Conservation Department gets countless requests for information from urban folks, rural folks, single mothers, single dads, busy executives about to retire and recent immigrants from states that don't have good fishing. Lots of people want to fish but don't know how.

To hear a fishing professional or an experienced angler talk about structure, patterning, thermoclines, downrigging, flipping, planer boards, crankbaits, jerkbaits and jigs, you would conclude that fishing is an incredibly complex pastime.

It doesn't have to be. One of the joys of fishing is that it can be fun and productive at any skill level. You can complicate the sport with jargon and sophisticated equipment - and you may as you keep fishing - but the whole sport can be pared down to some basic equipment and techniques.

This section presents those basics to you. It would take many volumes to introduce you to all the species of fish, all the methods and all the lures, and so much information at once would be overwhelming.

Instead, we want to be your guide for your first fishing trips. Let us go with you hand-in hand - like an uncle or parent - to the water and patiently teach you how to catch some fish. We know that once you start fishing, you'll quickly learn to love the sport.

## Fishing Gear

Sporting goods departments and bait shops often stock mind-boggling inventories of equipment and accessories. They offer artificial baits in every color and size. Plus you'll encounter a whirlwind of bugs, bobbers, sinkers, hooks and swivels.

Don't be misled or cowed; you don't need a garageful of equipment to go fishing. In fact, the following basic items will equip you nicely for your first outings.

### Shopping List

- Package of hooks size 6
- A "wheel" of split shot in assorted sizes.
- One package of three bell sinkers, 1/2 -ounce.
- A small plastic tackle box.
- Two or three bobbers.
- Monofilament line, 8-pound test.
- Stringer.
- Landing net (optional).
- A Missouri Fishing Permit (If you are between 16 and 64 or are a non-resident) and a trout permit if your target is trout, except in the state's four trout parks, where you will need a daily permit.

### Other useful items

- Pair of needlenose pliers
- Pair of fingernail clippers
- Cooler or bucket

## Rod & Reel

You could catch fish with a stick, some string and a safety pin. In a similar vein, you could also pound nails with a rock. But wouldn't it be easier to use a hammer?

Commercial fishing equipment, rods, line and hooks take the place of a stick, string and pin. They are designed to improve your fish catching ability and to decrease your frustration. And like the hammer, a fishing rod and reel is a purchase that will serve you over and over again.

Fortunately, taking this giant evolutionary step from stick and string to a modern and suitable fishing rod and reel is not expensive. You can outfit yourself for fishing for anywhere from \$10 to \$50, depending on the quality of the equipment you choose.

You could pay more, but new or nearly new, low-end equipment is perfectly serviceable for beginning anglers. Even if it doesn't last a millennium, it lets you fish until you know enough about the sport to select your second-generation tackle.

You might also borrow some equipment from a relative or friend to begin fishing. Your request could lead to a fishing outing with an experienced partner.

We're going to be spin fishing, as opposed to flyfishing or baitcasting. In spin fishing, the reel lays line around a fixed spool, the way you might wind thread on a spool. The spool end points toward the guides on the rod, and line falls off it in loops when you cast.

Spin fishing reels are of two types (don't get scared; this is easy): closed face and open face. The closed face reel has a cap with a hole in it over the top of the spool. On the open face reel, you can see the entire spool and the line wound on it. (See illustrations on page 21 of this special fishing section.)

Closed face reels have either a push button or a lever that, when depressed, allows line to fall off the spool. Open face reels have a semicircular metal device known as a bail, which guides line onto the spool when closed and allows line to be released when open.

You can pick either closed face or open face reels. Note from the pictures on page 21 that the push button reel requires a different rod handle and grip than do the reels with a bail or a lever.

You'll want a good all-round rod-and-reel combination to start with - something that will let you catch fish of all sizes. Look for or, better, ask the clerk for a medium-light rod from 5 1/2 to 6 1/2 feet long and a matching reel that will handle lines from 4-pound test to 12-pound test. (The "pound test" tells you how strong the line is.) Medium-light tackle is sufficient for fishing ponds and small lakes and rivers, even trout parks.

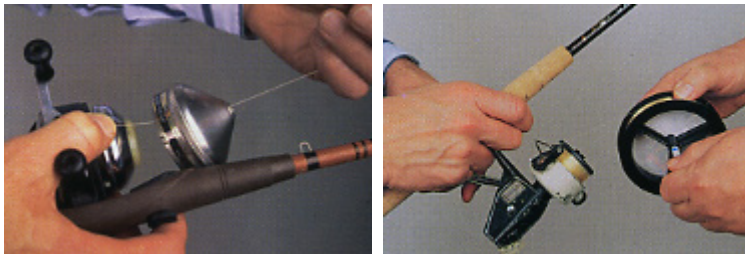
## Line: Your Link to the Fish

We suggest starting with 8-pound test monofilament line. People sometimes use lighter line to cast farther or to get more bites from skittish fish or heavier lines to pull out of snags, but 8-pound test line is a good compromise for most fish. Choose clear, light blue or green line for your starting outfit.

Check your reel or the instructions that came with it to determine how much 8-pound-test line it will hold. Usually a 100-yard spool is large enough to fill a medium-light reel.

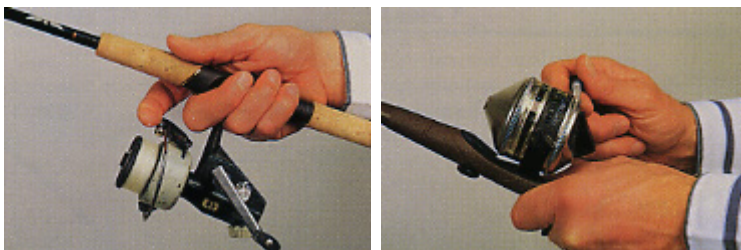
Follow the instructions that come with your reel and line before filling. The reel is full when the wrapped line is about 1/16 of an inch from the outside edge of the spool. Don't allow knots in your line, except at the end. Knots both weaken line and make it difficult to cast.

### Filling the reel spool



Thread the line through the spool cap or under the bail to start. Tie one end of the line to your reel spool with an overhand knot, and then reel it on. Most spools of line come with suggestions on how to avoid line twist when filling your reel.

### Spinning reels and rods and how anglers hold them



Open face spinning reel. The rod is held in the right hand with the reel on the underside for both casting and retrieving. Right-hand anglers reel with their left hand. Closed face reels with levers are also held in this position.

Push-button closed face spinning reel. The rod is held reel up. Cast with the rod in the right hand and switch the rod to the left hand before retrieving. Reel with the right hand.

## ***Casting***

Casting is a mechanical activity. The fishing rod extends your arm and allows you to "throw" your lure or bait a long distance with little effort. Keep in mind that casting is a matter of timing, not strength. You don't need to "beef up" to become a good caster.

We'll teach you a very reliable overhand cast. In the directions, southpaws should substitute left for right.

You can learn to cast on the water, or head to your backyard or a nearby park and throw to targets on the grass. Practice with a bell sinker or a plastic casting plug attached to the end of your line. A few 10-minute sessions will make you proficient enough to fish. Of course, you'll get even better with more practice.

Lightly grip the fishing rod in your right hand as shown in the photos on page 21. Start with your shoulders square to your target, right elbow near the front of your rib cage, forearm and rod pointing in the direction of the cast. You should have 5 to 10 inches of line extending from the tip of your rod to the practice plug, which, because the rod is motionless, hangs straight down. Look at your target.

Either push the button or depress the lever of the reel and hold it, or, if your reel has a bail, flip it open, making sure to secure the line in the crook of your index finger.

Lift your right forearm straight up, keeping the elbow in place or allowing it to rise just a little. The rod will follow backwards. Don't hurry this movement; let it be slow enough that you can feel the weight of the practice plug. Early in the movement you will feel the rod tip lifting the plug. Later in the backcast the plug feels like it is pulling the rod tip.

Continue the backcast until your hand moves to about the level of your ear. At this point, you can pause momentarily, as the weight of the plug bends the rod and your wrist backward.

Before the rod starts to pull the plug forward again, sweep your forearm forward, again keeping the elbow pretty much in place. When your arm is about halfway back to its original position, let loose the line, either by releasing the button or lever or straightening your index finger. The plug, bait or lure will be propelled forward, peeling line off the reel until it lands.

If your lure shoots up in the air and doesn't go very far, you probably released the line too early. If the lure smacks into the ground in front of you, you released the line too late.

Remember that the cast has no sudden or jerky motions. Practice until it becomes smooth and nearly effortless.

## ***Finer Points***

All anglers do not cast alike. As you fish, you will develop your own casting style. You will also learn special casts, such as the sidearm cast or underarm flip, that will allow you to throw a lure when branches or brush make the overhand cast impossible. All casts, however, depend on the basic back and forth motion. That's the best way to take mechanical advantage of the rod. Here are some tips to improve your casting:

- Accuracy is often more important than distance. Many fish remain near protective cover and will strike only those lures that come into their immediate vicinity.
- Improve your accuracy by casting to definite targets, even while on the water. Make sure you focus on your target while casting.
- If you sense you've cast too far, you can slow the lure by providing some drag on the line with your fingers or by lifting the rod so that the line drags against the end guide, instead of flowing through it.
- Casting heavy lures or baits requires more of a lobe than a cast. Increase slightly the distance between the lure and the rod tip and use more of a sidearm cast. Bring the rod

back more slowly and pause longer before beginning the forward cast. Use your entire arm, instead of just the forearm for casting.

- Longer rods generally allow you to cast further, if they are correctly matched to the weight of the lure or bait. Make sure your reel is filled to capacity, so the line does not drag on the reel spool.
- If you need more distance, use a two hand grip and bring the arm back more quickly on the backcast, loading the rod with more energy potential.
- Casting into a strong wind requires a lower trajectory, which is achieved by releasing the line slightly later in the forward part of the cast.
- If your lure bounces or skitters across the water, you are releasing the line too late. Release earlier for a higher trajectory. Remember the bouncing technique, though, for you may someday want to skip your lure under a dock or raft.
- Many problems with distance or accuracy result from holding the rod too tightly. Use the minimum amount of force necessary to hold the rod through the cast. Seizing the rod tightens muscles and restricts fluidity, especially in your wrist. The lighter the grip, the more control and distance.



### Picture a Clock Face

Timing is everything in casting, and picturing the movements as if moving around a clock face can help you learn to make good casts time after time.

Think of your elbow as the hub of the clock and your forearm as the hour hand.

Start the cast at 10 o'clock. Bring your forearm slowly but steadily back to 2 o'clock. Sweep the forearm forward back to 10 o'clock, releasing the line somewhere near 11 o'clock.

If you follow the hours exactly, your lure should land in the next time zone.

### ***Rigging up***

Now that you've acquired some fishing gear, learned how to cast and studied your quarry, it's time to arm your fishing pole for action.

The end of your line is the scene of all this action. Here you'll tie a hook or lure and, perhaps, fasten on split shot, sinkers, swivels or bobbers. Use the Improved Clinch knot to tie on hooks and lures.

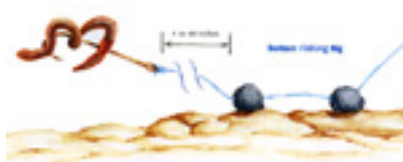
How you rig depends partly on the kind of fish you hope to catch. Catfish usually search for food near the bottom, so you need weight to keep your bait near the fish. Crappies and many other panfish often swim a few feet beneath the surface, and a bobber will hold your bait up where the fish can see it.

Generally, use as light tackle as you can. Holding your bait on the bottom of a pond on a calm day, for example, doesn't require a large sinker. One or two split shot will do, and the lighter weight is less likely to alert fish that are sampling your bait.

Similarly, use a small, streamlined bobber and balance it with enough split shot beneath that the fish can pull your bobber down without much resistance.

What you should use for bait also depends on the kind of fish you're after. (See the chart on the next page.) The best all-round bait is probably a worm or a part of a nightcrawler, both of which will catch panfish and trout, as well as most larger species. Hook the worm several times through, or pinch off part of a nightcrawler and run the hook through it.

## How A Drag Works



Fishing reels have a drag to prevent the weight and pull of a fish from snapping the line, making it possible to land even large fish with light lines.

Before fishing, set the drag to release line before the breaking point of the line is reached.

When a big fish is pulling, line will come off the reel, sometimes making a clicking sound. Learn to recognize when the drag is letting a fish run and don't reel during that time, or your line will twist. Avoid the temptation to tighten the drag while fighting a fish.



## Baited Hooks

Keep baits fresh. With few exceptions, fresh bait will attract more bites than old bait.



## Improved Clinch Knot



1. Run the end of the line through the eye of a hook about 6 inches and fold it back on itself. Holding both pieces of line in your fingers, rotate the hook about ten half-turns. The doubled line between your fingers and the hook will now be twisted.

2. Insert the end of the line through the space between the first twist and the hook eye.
3. Bring the tag end of the line back through the loop made by the previous step. You'll find it helpful to use the fingers holding the hook to help you guide the end through the loop.
4. Pull on both the line and the tag end to tighten the knot and snut it up to the eye. The knot will come together more smoothly if you moisten the line with saliva before tightening. Trim the tag end about 1/4-inch away from the knot.

### ***Bait Chart***

<b>Species</b>	<b>Baits</b>	<b>Lures *</b>
<b>Bluegill</b>	worms, insect larva	jigs, flies, and small spinners
<b>Crappie</b>	minnows, worms	jigs, spinners and small crankbaits
<b>Catfish</b>	worms, stinkbaits, cheese	occasionally take jigging spoons or crankbaits
<b>Bass</b>	minnows, nightcrawlers	plastic worms, spinnerbaits, crankbaits, jigs
<b>Carp</b>	worms, doughballs	usually do not strike artificials
<b>Trout</b>	worms, minnows, grasshoppers	spinners, small plugs, esp. crayfish imitations, flies
<b>Walleye</b>	minnows, nightcrawlers	jigs, crankbaits, jigging spoons
<b>Muskellunge</b>	large minnows	bucktail spinners, oversize plugs

\* Choose sizes and lures based on the size of the fish. Don't expect bluegills, for example, to eat a big minnow or muskellunge to attack a small fly.

# About Fish



## Fish Senses

**Lateral line:** Nerve endings along a row of pores on either side of a fish from gills to tail act as radar, allowing the fish to detect the size, shape, direction and speed of objects.

**Touch:** Fish can detect minute temperature differences and can discriminate between hard and soft baits. Fish are more likely to hold a soft bait longer.

**Sight:** Fish are able to see well, but not in muddy water or low light. Out of the water, a fish's vision is very restricted.

**Hearing:** Water conducts sound better than air, and fish hear directly through the bones in their head. Noise on the bank or dock may attract or spook fish.

**Taste:** Most fish do not rely much on taste, but catfish and bullheads have taste buds over their entire bodies and fins that help them find food.

**Smell:** Fish have a nasal sac to help them detect odor. Night feeders or fish that live in muddy water have a highly refined sense of smell.

Fish are cold-blooded, which means that their body temperatures are about the same as their surrounding environment. Because they don't produce body heat, fish must find and remain in water that they are adapted for.

A fish's streamlined shape helps it move through the water. The water also helps "float" fish; many species can make themselves lighter or heavier in the water by increasing or decreasing the amount of gas in their swim bladders.

A fish swims by alternately contracting muscles along each side, which causes its tail to sweep and propel the fish forward. The smaller fins assist with forward and backward movement, provide stability and steering and may help the fish brake.

Fish markings usually serve as camouflage. For example, fish that are found near rocks or weeds often have blotches or bars on their sides. Many fish are dark on top and light beneath, making them more inconspicuous when viewed from above or below, respectively.

Most fish have scales, which are embedded into the skin and are arranged in overlapping rows. Scales may be thick and tough, as in the sunfish, or extremely small, as in trout. Catfish have a tough skin, instead of scales. Growth marks on scales reveal the age of fish, just as tree rings show the age of trees.

The life span of most of our gamefish is about 4-6 years, but some of them live more than 10 years. Fish continue to grow in length and girth as they get older.

Many fish swim in groups or schools; solitary fish may concentrate when a feeding opportunity presents itself.

Some fish wander constantly in search of food; others have narrowly defined home ranges and wait for food to come close enough to ambush.

Fish often make regular daily movements between feeding and resting places, seasonal movements to summer and winter habitat and annual movements to traditional spawning areas. Many species travel long distances to spawn. Spawning activity concentrates fish and makes them easier to find and catch.



## ***Can they hurt me?***

Fish are not inherently dangerous or threatening; however, careless handling can result in unpleasant cuts or punctures. Handle fish firmly but carefully or use a landing net to stabilize fish while you unhook and measure them.

The catfishes, especially the minnow-size madtoms, possess a mild but painful venom that can be introduced when a person is pricked by spines at the front of the pectoral or dorsal fins. Protect yourself by holding the fish from the underside, with your fingers firmly beneath the pectoral spines. The barbels of catfish are harmless.

Bass, crappie and small catfish can be safely held by putting your thumb into their mouth and pinching their lower lip. Walleye, gar and large trout have sharp teeth that can inflict a painful wound when lipped. Grip these fish around the back of the head, above the gills.

White bass and stripers have sharp edges on their gill plates that can slice a finger inserted beneath their gills.

The fins of sunfishes, bass and the walleye family become rigid when the fish is threatened. Slide your hand down over the fins of small fish and hold them firmly. Grasp larger fish over the back of the head, above the gills.

Don't let a struggling fish sink your own hooks into you. Keep hands and legs away from flopping fish and use hemostats or needlenose pliers to safely remove the hooks from fish.

## ***Common Missouri Fishes***



Bluegill/Sunfish

Found in ponds, lakes and streams, bluegills and sunfish thrive in warm, clear water with weeds and insects. They often feed in shallow water and can be caught on worms, crickets or flies. Average size is about 6 inches.



Channel Catfish

Channel catfish live in ponds, lakes and streams and bite on a variety of live, cut or prepared baits fished on the bottom. The best fishing is at night or following a heavy rain. Adults run 12 to 32 inches long.



Largemouth Bass

Largemouth bass are plentiful in lakes and ponds. Even a small pond may hold big fish. They often hold near cover, such as weeds, docks or timber. Bass eat other fish and crayfish. Adult bass commonly run 10 to 20 inches.



White Crappie

Crappie usually prefer cover, such as brush beds placed by anglers, and submerged trees. They bite best on small jigs or minnows fished slowly and sometimes quite deep. These popular food fish usually run from 9 to 11 inches.



Carp

Carp prefer shallow water and feed on plant and animal material. They bite best on worms, canned corn and doughballs. Carp usually range from 1 to 8 pounds, but often grow much larger. Their flesh is bony, but flavorful.



Rainbow Trout

Trout prefer cool, flowing water, but some are put into urban lakes in winter for anglers to catch. They bite on worms and insects and are a favorite of fly fishers. Trout average about 10 inches, but larger fish are common.

# Where to Look

Fish might be found in water scarcely deep enough to cover their backs, or they might swim in unfathomable depths. They may scour the bottom, roll on the surface or hover anywhere between.

Each species of fish goes through different cycles at various times of the year and eats different foods. Spawning puts fish in one place, their need for cover another and their tolerances of temperature and oxygen levels another. Individual and species needs and preferences present too complicated an equation for mortals or computers to master.

Nevertheless, anglers have been trying to figure out the intricacies of fish location since people used bone fish hooks. The result: still no absolutes, but along the way the discovery of some pretty reliable indicators of fish location. Study the stream and pond art on these pages for hints to fish location.

## **Food**

All living things need to remain near a food source and fish are no exception. Fish tend to concentrate where food is plentiful. Schools of minnows or other preyfish will attract larger fish to feed on them. Fish take advantage of many feeding opportunities, including hatching insects and migrating frogs.

Signs of small fish activity can lead you to fishing hotspots. Minnows darting above the surface are often trying to escape from larger fish. Numerous small fish in the shallows could mean that larger fish will later arrive to feed.

## **Cover**

Fish use cover to escape predators and as an aid in ambushing prey. Some fish spend most of their lives near cover; others move from cover only to feed.

Cover can be loosely defined as anything that will hide or protect the fish. Weeds, docks, brush, rocks and logs all provide cover, so do overhanging trees, cliffs or swimming platforms, which shade the fish and make them less visible to other fish, predatory birds and humans.

Much cover is visible. Weeds grow near the bank, fallen trees lean over the water, boat docks and swimming platforms rim the lake, flooded timber reaches above the water's surface and loose rock often line shorelines.

A lot of cover cannot be seen. Underwater rocks and sunken logs, as well as fish shelters of sticks, brush or Christmas trees that anglers have placed to attract fish can be found on many lake and river bottoms.

## **Structure**

Dropoffs, points, ridges and sandbars shape the beds of lakes and rivers. These structural elements often attract more fish than do flat or gently sloping bottoms.

You can find good places to fish from clues on land or in the water. Land points often extend into a lake; a path between flooded timber indicates an old river channel; a break in a wave pattern reveals an underwater island and the weed edge tells where the water has become too deep to allow sunlight to penetrate to the bottom.

## **Edges**

Feeding fish seem to favor transition zones between different habitats. The edge of a weedline, for example, usually produces the most fish. In rivers, fish often feed near current breaks, where the flow is deflected or slowed. These are often visible from the surface.

Similarly, the break between muddy and clear water, the edges of main lake basins, the margin where mud bottom meets gravel bottom and dropoffs also attract active fish.

### ***Deep or Shallow?***

Fish respond to both feeding opportunities and light levels. Generally, fish are in shallower water in low light and choppy conditions, and in deeper water when the sun is bright and winds are calm.

Fish are often shallower in the spring and early summer. Summer heat sends fish deeper to find cooler temperatures, but not to the bottom, where there is little oxygen. Fall fish tend to remain deep. Fish in icecovered lakes often stay near the surface, especially in late winter.

### ***Day or Night***

Fishing can be good at any time. However, fish seem to prefer the low light conditions of morning and evening better than the bright sun of midday. Cloud cover creates a twilight of its own and may encourage fish to bite.

Catfish, bass, crappie and many other species of fish will bite day or night. In some clear lakes, fishing is better at night than during the day. Big fish seem to be less selective and easier to catch when it is dark.

Fishing at night is difficult even for experienced anglers. Beginning anglers can experiment with fishing at night by fishing during the evening and continuing to fish until after dark.

### ***Good Weather or Bad***

Weather certainly affects fish, but not always in predictable ways. The following statements often prove true:

- Fishing is good before and during a gentle rain but poor during and after a thunderstorm.
- Warm fronts improve fishing, and the longer the front stays, the better. Cold fronts often reduce fish movements.
- A light to moderate wind is better than no wind. Fish will move shallower to feed in windy conditions. Fishing is usually better where the wind blows into the shore than along protected shorelines.
- The best time to go fishing is whenever you safely can.

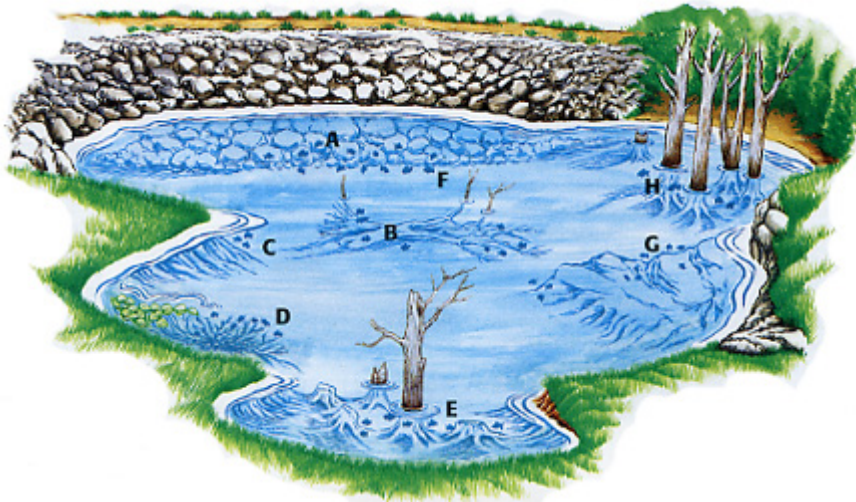
### ***Patterns***

Patterning means using information you have learned from the fish to find more fish. We can assume whatever caused a fish to locate in one place would prompt others to be in similar places.

Catching a fish off a windswept point, for example, could mean that other fish will be located on that point and on similar points throughout the lake. What works for one fish often works for others of the same species.

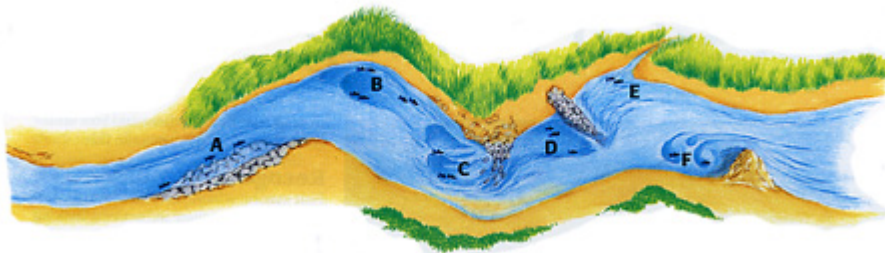
Patterns may hold for a few hours or all day, or they may persist for weeks. Some patterns repeat themselves year after year. Experiment until you discover a pattern then use that pattern to catch more fish.

### *Where at in a pond*



- A. Rocks
- B. Sunken cover
- C. Points
- D. Weeds
- E. Submerged Stumps
- F. Lake basin margin
- G. Stair step along dropoff
- H. Flooded timber and shade

### *Where at in a river*



- A. Riprap banks
- B. Deep river bends
- C. Holes below riffles
- D. Behind wing dams
- E. Feeder stream mouths
- F. Eddies

# Let's Go Fishing

## ***Patience***

Many fish are constantly on the move, looking for food. You can either intercept them or wait for them to come to you. If you know you are in a good spot - for example where you have seen other people catching fish or have caught them yourself - then it might be best to wait for them to return.

If you are fishing unfamiliar waters, then it is often wiser to search for good fishing spots. Keep in mind, however, that even the best fishing holes do not produce nonstop action. Patience has always been a virtue among anglers.

## ***Stealth***

Being quiet is almost as important as being patient. The bigger the fish the more skittish they are. Commotion on a dock, along the shore or in a boat can scare fish away or cause them to stop feeding. Conversation is fine, but jumping or running or banging equipment will reduce your catch. Think sneaky.

You can usually approach closer to fish under cloudy or windy conditions or in flowing water. When trout fishing in streams, wear muted colors and keep a low profile. Try not to let your shadow fall over areas you are fishing.

Stealth also applies to the way you present your bait or lure. Don't cast directly to the spot where you think the fish are. Instead, cast beyond them and reel until your bait or lure is among the fish.

## ***Recognizing a Bite***

Fish may hit a bait or lure ferociously, tentatively or somewhere in between, making it difficult to predict how you may see or feel a bite.

Bobbers could jiggle, plunge downward or skate across the water. If the fish swims upward after taking the bait, your stick bobber may lay flat or float higher in the water.

When bottom fishing, your rod tip may plunge downward or quiver, or your line may unexpectedly go slack.

If you are holding your fishing pole, you may feel a tap, a tug or a pull, or the line may go slack.

## ***The Hookset***

When you suspect a bite, reel up any loose line and drive the hook home with a powerful upward sweep of the rod. Setting the hook with a slack line or a loop in the line usually won't make the hook penetrate and probably will cause the fish to drop the bait.

If your drag is set correctly, you can set the hook vigorously. Stretch in your line, the drag and the bend of the fishing rod will absorb much of the pressure of the strike to keep from ripping the hook out.

## ***Fighting and Landing Fish***

Keep the rod up high, so your arms and the bend of the fishing pole absorb some of the power of the fighting fish.

Allow the fish to run, taking line from the reel. Recover line by lifting the rod handle and then lowering the rod tip as you reel in, pumping the fish closer.

Last-moment struggles of fish often surprise anglers and result in lost fish. When playing a large fish, loosen the drag slightly as the fish gets close.

Net fish head first. Place your net in the water and pull the fish toward it. When the fish is over the bag, lift the net firmly and quickly.

If you have no net, play the fish until it is tired and cradle it in your hand. Black bass, crappie, carp, suckers and catfish can be grasped and lifted by their lower lip, which tends to paralyze them. Avoid the sharp teeth of other species. Be careful not to hook yourself when you grab the fish. You can lead fish up the bank with your fishing rod or by backing slowly away from the water, letting the exertions of the fish help you bring it ashore. Do this only if you are planning to keep the fish.

## ***Keep or Release?***

Some anglers fish primarily for sport and release all the fish they catch. Others like to eat some species or particular sizes of fish, but release all others. Many times regulations require us to release fish.

Fish have a good chance of surviving after being caught many times, if they are handled carefully. Released fish can be caught over and over again. They grow large and produce even more fish for our pleasure.

There is nothing wrong with keeping fish to eat, so long as you obey regulations. On the other hand, give every fish you release, even small fish and nontarget species, the respect of careful handling.

Good catch-and-release technique begins even before you catch a fish. Choose lines and equipment that will bring fish in quickly, so they don't exhaust all their energy in a prolonged battle. Use artificial lures, in favor of live bait. Fish that hit

artificial baits are less likely to be hooked deeply enough to damage vital organs and have a high survival rate.

Also, prepare for easy release by squeezing barbs of hooks flat with pliers or filing them off. Barbless hooks won't cost you fish, if you keep a tight line, and they allow you to unhook fish without causing serious wounds.

Carry a pair of hemostats or needlenose pliers to help you remove hooks from fish.

Immobilize fish by holding them upside down. Don't let fish flop on the ground or the boat bottom. They could injure themselves. Don't put fingers in their gills or eyes.

If you use live bait, set the hook at the first sign of a bite, so the fish doesn't have time to swallow the bait. If the fish is hooked deeply in the gills or stomach where the hook cannot easily be removed, clip the line as close to the hook as possible. The hook will fall out after a time, with minimal damage to the fish.

Release fish as soon as possible. There's time for a quick picture of a fish, but the longer the fish remains out of the water, the less its chances of surviving.

Stressed fish can often be revived by holding them upright in the water and moving them slowly back and forth until they can swim away under their own power.



## ***Measuring***

Measure most fish from the tip of the snout to the end of the tail, with the fish laid flat and the tail lobes pressed together.

## ***Hung Up?***

It's hard to imagine moving a hook and sinker through the water for any length of time without occasionally getting hung up on a rock, a stick, a log, a dock, a cable, weeds or some other object. Snags are part of fishing.

When you get snagged, try to free the hook by holding your rod tip high and jiggling it. Often it helps to move to one side or the other to change the angle.

If the hook won't free, you'll probably have to break your line. Don't just pull hard with your fishing pole, or it may snap instead of the line. Better to wrap the line several times around your wrist and hand, preferably around a shirtsleeve or glove, point the rod tip at the snag and steadily pull or back away until the line breaks or the hook pulls free. Should the latter happen, check your hook and replace it if it is bent or broken. If the line is frayed near the hook, cut it off and retie.

## ***Cleaning***

Cleaning fish is easy after a little practice. You can clean fish on a dock, paddle, cooler lid or flat rock. Many fishing accesses and parks provide fish cleaning stations with water for rinsing fish.

Handy fish cleaning tools include a sharp knife, a scaler and a glove to protect your hand and help grip the fish. Cleaning fish on old newspaper will make clean-up easy.



Remove the scales from small fish that will be cooked whole or large fish that will be steaked by scraping the skin with a dull knife, a spoon or an inexpensive scaling tool.

Pan-dress fish by cutting along the sides of the fins on the back and behind the stomach and pulling them out. Cut off the head, then slit the belly and scrape out the entrails.

Fillet larger fish by cutting down to the backbone behind the head and sliding the knife blade with a sawing motion toward the tail. Slice out the rib bones from top to bottom.

Skin fillets by cutting down to the skin near the tail, turning the knife blade and, pulling firmly on the tail section, sliding and sawing the knife between the skin and the flesh.

Most anglers choose to fillet and skin bass, crappie, walleye and carp. Sunfish and bluegill are usually scaled and pan-dressed. Remove the head, entrails and pectoral fins from trout, but do not scale them.

Peel the tough skin from catfish with pliers and fillet the meat or cut it into chunks. Steak very large fish by cutting down through the backbone at 1-inch intervals.



## ***Cooking***

Fish taste great and are good for you. They are high in digestible protein and low in fat. Fish is a wonderful natural food, especially when you're eating the ones you caught yourself.

Fish can be fried, smoked, broiled, baked, poached, steamed, microwaved or boiled or put in chowders or stews. Use simple recipes that let the fine flavor of the fish come through. Follow recipes carefully and don't overcook.

Fish flesh is done when it becomes opaque and flakes easily. Test for doneness by probing the thickest portions with a fork. If the flesh flakes easily or separates from the bone, it is done. Further cooking will detract from its flavor and texture.

As is the case with sweet corn, the sooner you can get the fish to the table, the better it will taste. Fish flesh is sterile when it comes out of the water but it starts to go bad quickly, unless you take care of it. Preserve the quality of the fish you catch by keeping them alive or by keeping them cold.

During cool months, live baskets, stringers or live wells will keep your fish alive until it's time to go home. When fishing in warmer months, bring along a cooler of ice to keep your catch in. Drain the cooler occasionally, so that dead fish do not soak in the water.

Use fish quickly. Refrigerated fish begin to lose their flavor after only 24 hours. Frozen fish start to deteriorate in quality after 2 to 4 months.

Some fish, such as white bass and largemouth bass, have a strong-tasting dark layer of flesh along their lateral lines that should be cut away before cooking or storage.

## ***Panfrying***

White meat fish make excellent candidates for the frying pan. The oil keeps the flesh moist, and a coating keeps the meat's natural juices from cooking out.

Dust pan-dressed small fish or the fillets from larger fish in seasoned flour and place them in an open, heavy skillet in which about 1/4 inch of oil has been heated to almost "foaming". Don't crowd the fish or they will come out soggy. Cook each side over medium heat until brown. The flesh flakes easily when done.

For a thicker coating, dip fillets in milk or beaten egg and then coat them with crumbs, cornmeal or seasoned flour before cooking. Drain the pieces on paper towels before serving.

## ***Deep frying***

Use a thermometer to ensure your deep frying oil is between 360 and 380 degrees. You can deep fry in a skillet by using enough oil to completely submerge the fish.

Dip the fish in batter and place them gently in the oil. Avoid overcrowding them. Cook from 2-5 minutes until brown. Dry on paper towels. Allow the oil to reheat between batches.

## ***Baking***

Baking works well for large fish. Line a shallow baking dish with aluminum foil for easy removal of the fish. Baste the fish with a seasoned butter and lemon juice mixture, cover the pan with aluminum foil or a lid and cook for 10 to 30 minutes, depending on the thickness of the fish, at 375 degrees. Test frequently to see if the fish is done. Baste the fish in its own juices during cooking for more flavor. Save the pan juices for soups or sauces.

## ***Broiling and Barbecuing***

The high heat of broiling and barbecuing can dry fish flesh, unless the fish are basted often with sauce or oils. Broil skin side up first, then turn carefully. Thin fillets do not need turning. A small amount of liquid in the broiling pan will help keep the fish moist.

## ***Microwaving***

Place fish in a dish or on a plate with the thickest portions to the outside. Brush fish with butter/lemon mixture and cover with waxed paper. If fish "pops," cook at a lower setting. Check for doneness frequently. Add liquid and seasonings and cover dish with plastic wrap to poach or steam fish.

## ***Cooking Methods***

	Pan fry	Deep Fry	Bake	Broil	Barbecue	Microwave
<b>Sunfish</b>	Excellent	Excellent	Good			
<b>Bluegill</b>	Excellent	Excellent	Good			
<b>Catfish</b>	Good	Excellent		Good		Good
<b>Bass</b>	Excellent	Good	Good			
<b>Trout</b>	Good		Excellent	Excellent	Excellent	Good
<b>Walleye</b>	Excellent	Excellent	Excellent	Good		
<b>Carp</b>	Good	Excellent				
<b>Sucker</b>	Good	Excellent				

# Fishing Rules

Everyone over the age of 15 and under the age of 65 must have a permit to fish in Missouri. The exceptions are residents and members of their households fishing on waters completely enclosed by their property and people with certifiable disabilities. On some specially managed waters, such as trout parks, anglers also need a daily tag. The 1997 annual license for fishing costs \$9 for residents. Daily and lifetime permits are also available. See the current "A Summary of Missouri Fishing Regulations" for details.

Length limits, daily limits and seasons vary somewhat on specially managed bodies of water. Specific rules can be found in the fishing regulations and are often posted at accesses and fishing areas. The following are general rules that apply to most angling situations.

Rod and reel anglers are limited to three poles at one time.

The fish you keep must be kept separate from fish taken by another person.

The fishing regulations lists limits for most species of fish. While on the water, you can possess no more than the daily limit. Possession limit is twice the daily limit.

Game fish not hooked in the mouth or jaw must be returned to the water unharmed immediately after being caught.

## ***Golden Rules***

The simple courtesies and conventions of fishing all fall under the golden rule: Do unto others as you would have done unto you.

Everyone has a right to the fish. Don't crowd other anglers to the point where you tangle lines.

Shouting, screaming, playing loud music, throwing rocks into the water and other noises can scare the fish and ruin the fun of other anglers.

Fishing does not give you the right to trespass. Ask permission before fishing and show respect for private property.

Dispose of all your litter, including bait containers, cans, fishing line and fishing equipment packages.

Watch your backcast so you don't hook angling companions or other anglers. Alert others before trying to pull a snagged lure free, for the lure could sail back in your direction.

Observe all fishing regulations. Length limits, seasons, bag limits and restrictions on methods are part of the overall management of the fisheries. The future of fishing requires anglers to heed regulations.

## ***Sport Fish Restoration Program***

Anglers across the nation are paying the bills for fisheries research and management, for development of new fishing lakes and lake and stream accesses and for fish hatcheries, educational programs and other things aimed at maintaining and improving sport fishing. A special tax on each purchase of fishing tackle, related items and motor boat fuel goes into the Wallop-Breaux Trust Fund, a source of money dedicated to recreational fisheries and related boating. State fish and wildlife agencies are allocated money from the fund based on area of surface water in the state and the number of licensed anglers. This funding arrangement, known as the Federal Aid in Sport Fish Restoration Program, is hailed as a model of efficient "pay-your-own-way" financing.

Annually, the Missouri Department of Conservation receives about \$5 million from the fund, paid as reimbursements for 75 percent of the cost of approved projects. Keep your eyes open for the Sport Fish Restoration logo, shown here. You should find it on fishing tackle packaging and

displayed at areas where the funds were used. by Norman Stuckey, chief of the Conservation Department's fisheries division.

### ***Would You Like More Fishing Information?***

The Conservation Department offers a variety of fishing-related information in both print and video formats. Some of the material is free, or can be borrowed; other items are available for a low cost, plus tax and shipping.

For a list of Conservation Department publications send a card to:

Fishing  
Conservation Department  
P.O. Box 180  
Jefferson City, 65102-0180.